

REMARKS

Applicants wish to thank the Examiner for his April 13, 2000 telephone interview, and for his consideration of the two independent claims sent to the Examiner via facsimile on May 1, 2000 (new claims 22 and 23 above). After claims 22 and 23 have been entered, claims 1 through 23 will be pending in the present application.

In the Examiner's Final Office action dated December 14, 1999, the Examiner (1) rejected claims 1-21 under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over European Patent Appl. No. 0 751 376 ("Hayasida et al."); (2) rejected claims 2-3 and 20-21 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 4,937,751 ("Nimura et al."); and (3) rejected claims 1 and 4-19 under 35 U.S.C. 103(a) as being unpatentable over Nimura et al. in view of U.S. Patent No. 5,689,252 ("Ayanoglu et al."). Applicants respectfully traverse the above rejections in this Preliminary Amendment.

Examiner's rejection of claims 1-21 under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hayasida et al. and Applicants' traversal thereof

In response to the Examiner's rejection of claims 1-21 as being anticipated by or, in the alternative, as obvious over Hayasida et al., Applicants respectfully submit that the Examiner is misreading the disclosure of Hayasida et al. For example, in support of the Examiner's rejection of claims 1-21, the Examiner states that:

Hayasida et al. also suggest storing the data dependent upon the orientation of the vehicle with respect to the route; thus, as in Figure 13, the information along path 1 is stored separately from the information along path 2 which is merely the opposite direction of path 1. The applicants argue that the prior art does not show the use of photograph orientation information or orienting representations of photographs based on a route of travel. This is contrary to the teachings of Hayasida et al

and are thus not convincing, see Figure 13 and its relevant portions at col. 12, line 48 - col. 13, line 31.

Applicants submit that Hayasida et al. disclose storing road data (not photographs or photograph orientation information) in an information storing device “separately for permitted traffic directions through each road connecting two intersections”. (Column 13, lines 1-3). As defined in Hayasida et al., road data does not include photographs¹, rather road data includes “various data for the route search², such as information about roads connected to that road (permission or prohibition of entry therein), the road width, the number of lanes, the road length, or the costs of the connecting roads.” (Column 13, lines 10-15). Accordingly, Hayasida et al. do not teach, suggest or disclose “the use of photograph orientation information or orienting representations of photographs based on a route of travel” as stated by the Examiner.

Because Hayasida et al. only specify that “road data” may be stored “separately for permitted traffic directions” and because “road data” does not include photographs or photograph orientation information, Applicants respectfully submit that Hayasida et al. fail to disclose, teach or suggest:

1. storing, accessing and/or providing photograph orientation information;
2. orienting representations of photographs based on a route of travel; and/or
3. receiving representations of photographs oriented in accordance with a direction of travel along a route.

As described in Applicants’ specification, employing one or more of the above features within a system for providing driving directions allows the system to present a user with visual cues (e.g., photographs of recognizable landmarks) that aid in navigation (e.g., to “show the user exactly what to look for when following a route to a

¹ “The information storing device 3 stores files of various data for route guidance including map data, intersection data, node data, road data, photograph data...” (Col. 6, lines 20-22). Because road data and photograph data are listed separately, road data and photograph data are not the same data.

² A route search is a search for a route based on a current position and a destination. (Col. 7, lines 1-7).

destination" -- Applicants' specification p. 6, lines 30-36). The system may take the user's route of travel into consideration when presenting the user with the visual cues (e.g., by presenting visual cues based on the orientation from which the user approaches the visual cues). (Applicants' specification p.16, lines 26-30). For example, each photograph in the photography database 212 shown in FIG. 5 may be provided with information identifying an orientation of the photograph, and this orientation information may be employed to match/orient photographs with geographic vectors along a route of travel. (Applicants' specification p.14, line 29 - p.15, line 5). The result is a system which readily and intuitively provides accurate driving directions to users.

Hayasida et al. describe a vehicular navigation apparatus which is used to establish a route from a current position to a destination or a passing point (Col. 3, lines 41-45). Only data regarding certain roads ("guidance-possible roads") are stored in the navigation device of Hayasida et al.; and routes are established based on the use of these roads. (Col. 7, lines 15-18). If a driver strays from a route (e.g., leaves a "guidance-possible road"), the device of Hayasida et al. attempts to reconstruct a new route. (Col. 3, lines 19-36). However, because Hayasida et al. do not use photograph orientation information and/or orient representations of photographs based on a route of travel, a user of the Hayasida et al. apparatus (whether travelling on an originally established route or on a new route) is unable to receive visual cues based on the orientation from which the user approaches the visual cues. That is, the Hayasida et al. apparatus is unable to "show the user exactly what to look for when following a route to a destination" as with Applicants' invention.

Applicants' claims 1-23 each require one or more of the above-enumerated features of (1) storing, accessing and/or providing photograph orientation information; (2) orienting representations of photographs based on a route of travel; and (3) receiving representations of photographs oriented in accordance with a direction of travel along a route. Accordingly, Applicants respectfully submit that claims 1-23 as presented are allowable over Hayasida et al.

Examiner's rejection of claims 2-3 and 20-21 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nimura et al. and Applicants' traversal thereof

In response to the Examiner's rejection of claims 2-3 and 20-21 as being anticipated by or, in the alternative, as obvious over Nimura et al., Applicants respectfully submit that the Examiner is (1) misreading the disclosure of Nimura et al.; and/or (2) improperly employing hindsight to read features into Nimura et al. that are not disclosed within this reference. For example, in support of the Examiner's rejection of claims 2-3 and 20-21, the Examiner states that:

Applicant argues that Nimura et al fails to suggest or teach the use of photograph orientation information or orienting representations of photographs based on the route of travel. This is not convincing since the photograph data of a predetermined path between points I and II (of Figure 4A) are provided based upon the direction of travel in which the vehicle is moving, along path 1 or along path 2.

Not true

The above statement appears to indicate that the Examiner believes that path 1 and path 2 of FIG. 4A merely identify a different direction of travel along the same road. However, Nimura et al. clearly state that path 1 and path 2 are separate roads, not the same road. (Col. 4, lines 67-68). Given that path 1 and path 2 represent different roads (road 1 and road 2), Applicants submit that there is no reason to assume that similar "characterizing features" will be seen along road 1 and road 2. Accordingly, it is of little surprise that the database of FIG. 4C of Nimura et al. illustrates that a different photograph is associated with road 1 than is associated with road 2. Given that road 1 and road 2 are different roads and that Nimura et al. is completely void of

any discussion of orienting a representation of a photograph based on a direction of travel along a route, only through hindsight³ based on the Applicants' own disclosure can one conclude that the reason Nimura et al. associate photograph no. 1 with road 1 and photograph no. 2 with road 2 (in FIG. 4C) is because photograph no. 1 is "oriented" based on the direction of travel of road 1 and because photograph no. 2 is "oriented" based on the direction of travel of road 2. There is simply nothing present in Nimura et al. to support the conclusion that Nimura et al. disclose, teach or suggest "the use of photograph orientation information or orienting representations of photographs based on the route of travel" as stated by the Examiner.

? The Examiner's attention is also drawn to FIGS. 5A and 5B of Nimura et al. which show such information as "intersection name, intersection no., photograph no., angle, and distance" (FIG. 5A) and "characterizing feature, connecting intersection (1), connecting intersection (2), and distance from connecting intersection (1)" (FIG. 5B). As Nimura et al. state, the data in FIG. 5A is "route data"⁴ and the data in FIG. 5B is "characterizing feature data". (Column 5, lines 66-68). Accordingly, the "angle" information in FIG. 5A does not relate to orienting a characterizing feature.

³ The temptation to use hindsight when examining prior art references has long been recognized. For example, the MPEP specifically cautions that:

To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. *Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.*

MPEP 2142 [emphasis added].

⁴ "The route data comprises the intersections, in order of nearness, from the starting point to the destination along the retrieved optimum route." (Col. 6, lines 1-3).

Applicants respectfully submit that Nimura et al. fail to disclose, teach or suggest any of the following:

1. storing, accessing and/or providing photograph orientation information;
2. orienting representations of photographs based on a route of travel; and/or
3. receiving representations of photographs oriented in accordance with a direction of travel along a route.

As described above, employing one or more of the above features within a system for providing driving directions allows the system to present a user with visual cues (e.g., photographs of recognizable landmarks) that aid in navigation (e.g., to "show the user exactly what to look for when following a route to a destination" -- Applicants' specification p. 6, lines 30-36). The system may take the user's route of travel into consideration when presenting the user with the visual cues (e.g., by presenting visual cues based on the orientation from which the user approaches the visual cues). (Applicants' specification p.16, lines 26-30).

Nimura et al. describe a navigation apparatus which is used to navigate an automobile over a "preset course". The automobile's position along the preset course is ascertained by measuring the distance traveled and by taking steering measurements from the vehicle throughout the course. (Col. 2, lines 3-13). As the vehicle travels along the course, a recorded "voice track" is played giving the driver further directions (e.g., "turn left at the next intersection", etc.). Visual cues may be provided along with the voice track. (Col. 4, lines 4-16). However, because Nimura et al. do not use photograph orientation information and/or orient representations of photographs based on a route of travel, a user of the Nimura et al. apparatus is unable to receive visual cues based on the orientation from which the user approaches the visual cues. That is, the Nimura et al. apparatus is unable to "show the user exactly what to look for when following a route to a destination" as with Applicants' invention.

Applicants' claims 2-3 and 20-21 each require one or more of the above-enumerated features of (1) storing, accessing and/or providing photograph orientation information; (2) orienting representations of photographs based on a route of travel; and (3) receiving representations of photographs oriented in accordance with a direction of travel along a route. Accordingly, Applicants respectfully submit that claims 2-3 and 20-21 as presented are allowable over Nimura et al.

Examiner's rejection of claims 1 and 4-19 under 35 U.S.C. 103(a) as being unpatentable over Nimura et al. in view of Ayanoglu et al. and Applicants' traversal thereof

The Examiner cites Ayanoglu et al. to establish that "it is known in the art of vehicle navigation to alternatively store a plurality of databases at a central database station as opposed to on-board a vehicle, as well as the route determination at the central station wherein the map data and route information is communicated to the vehicle and thus minimizes the size and cost of the more numerous vehicle navigation device." Ayanoglu et al. disclose a navigation system for determining the "best route" to a destination based on the time required to travel the route. (Column 1, line 67 - Column 2, line 2). Like Hayasida et al. and Nimura et al., Ayanoglu et al. fail to disclose, teach or suggest:

1. storing, accessing and/or providing photograph orientation information;
2. orienting representations of photographs based on a route of travel; and/or
3. receiving representations of photographs oriented in accordance with a direction of travel along a route.

In fact, Ayanoglu et al. altogether fail to discuss the use of photographs/photographic data. Accordingly, neither Nimura et al. alone nor in combination with Ayanoglu et al. can "show the user exactly what to look for when following a route to a destination" as with Applicants' invention, and claims 1 and 4-19 are allowable over Nimura et al. in view of Ayanoglu et al.

Newly added claims

Newly added claims 22 and 23 distinguish over the references cited by the Examiner, alone or in combination, for at least the reasons stated above. Claim 22 also features photograph matching instructions that include instructions adapted to match coordinates of a representation of a particular photograph with a corresponding geographic location, and both claims 22 and 23 feature photographic information that includes coordinates of a location shown in a representation of a photograph and a direction of view of the representation of the photograph. Applicants respectfully submit that neither Hayasida et al., Nimura et al., Ayanoglu et al. nor any other prior art of record, alone or in combination, disclose, suggest or teach these features.

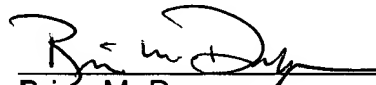
Conclusion

For the foregoing reasons it is submitted that all of the claims are now in condition for allowance, and the Examiner's early re-examination and reconsideration are respectfully requested. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is cordially requested to contact Brian M. Dugan at telephone number (203) 461-7121 or via electronic mail at Brian.Dugan@WalkerDigital.com.

Please charge any additional fees that may be required for this Preliminary Amendment, or credit any overpayment to Deposit Account No. 50-0271. If an extension of time is required, please grant a petition for that extension of time which is required to make this Preliminary Amendment timely, and please charge any fee for such extension to Deposit Account No. 50-0271.

Respectfully submitted,

May 15, 2000
Date

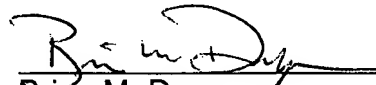


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